Office of the
Government Chief Information Officer

DOCUMENTATION STANDARDS
FOR
IMPLEMENTATION PHASE

[S8]

Version : 3.7

Jul 2012

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1. PURPOSE

The major purposes of this documentation are :

- to define the documentation required to be prepared in the Implementation Phase ; and

- to set out the standards of the stipulated documentation.

2. SCOPE

These standards laid down the purpose and content of the following manuals:

a. System Manual

b. Program Manual

c. Data Manual

d. Application Operation Manual

e. Application User Manual

f. Computer Operating Procedures Manual

These standards will be used by application development teams as well as application maintenance teams in preparation and revision of implementation documents. Application end users involved in preparation of Application User Manual may also refer to the standard for Application User Manual.

Documentation of all administrative systems should follow these standards.

3. REFERENCES

3.1 STANDARDS

SSADM V4.2 Documentation Standards [S4]

3.2 OTHER REFERENCES

Resources Estimation Guide [G19]

4. DEFINITIONS AND CONVENTIONS

4.1 DEFINITIONS

Nil

4.2 CONVENTIONS

Nil

5. SYSTEM MANUAL

5.1 PURPOSE

The purpose of System Manual is to provide an overview of the system by listing out in brief the programs, data files, equipment, clerical procedure, computer operation procedure, etc. Reader interested in specific area may refer to the corresponding manuals (Data Manual, Program Manual, etc.).

The major readers of System Manual are the staff responsible for maintaining the application system.

The major input for the preparation of System Manual is the System Analysis and Design Report prepared during the System Analysis and Design Phase (see Appendix A), with necessary refinement and elaboration of details.

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6.3 Consumable and Media

7 SOFTWARE INVENTORIES
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7.2 Inventory of System Software
7.3 Inventory of Software Package

8 SECURITY AND BACKUP

9 DATABASE ADMINISTRATION

10 SYSTEM CONSTRAINTS AND LIMITATIONS

11 FUNCTION POINT ANALYSIS

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5.3 SYSTEM SUMMARY

5.3.1 Objectives

This section should provide statement of objectives as agreed in the Project Request, Feasibility Study Report or System Analysis and Design Report.

5.3.2 System Functions

This section should document the functions provided by the application system.

The following information should be provided for each function :

- Function ID/Name
- Function Description
- Mode (e.g. Online/Batch, Enquiry/Update)
- Frequency of use
- Special Service Level Requirement (e.g. Response time, service duration)

5.4 EQUIPMENT CONFIGURATION

This part should provide the equipment configuration which describes the inter-relationship among all hardware components including communication network. Diagram may be used to supplement the narrative description if applicable.

If the equipment configuration is common to projects run on the same computer system and they are documented separately and centrally, the corresponding documents should be stated for reference.

5.4.1 Computer Hardware

This section should :

- list manufactures, model number, serial number, device names for all devices;
- list relevant speeds and/or capacities for devices, including communication lines where applicable;
- list types of lines, note whether lines are private, leased, dial up, multidropped, etc.
- document the location of in-house and remote devices.
- provide a simple diagram to represent the relationships among the above hardware if appropriate.

5.4.2 Ancillary Machinery

This section should provide similar information as stated in 5.4.1 of any ancillary machinery used, such as :

- Data entry equipment
- Guillotining equipment
- Decollation equipment
- Others

5.4.3 Consumable and Media

This section should describe the consumable and media required by the application system. These include :

*	Magnetic media (disc, tape)	-	total number, capacity, usage, labeling, retention policy.
*	Stationery (cards, paper)	-	give the estimated annual consumption of each type of stationery required.

5.5 SOFTWARE INVENTORIES

This part should summarize all software that is required for the operational running of the system. Detailed documentation of the application programs should be given in the Program Manual. The objective of this chapter is to enable the future Maintenance and Enhancement Team to be aware of the scope and inter-relationship of functions and programs and files.

5.5.1 Inventory of Application Programs

This inventory should be organized in function group/system module order, and should include the following details :

- Program ID/Name
- Functions of the program

In case of client/server application, the location of the program (e.g. Database Server, Application Server, Client, etc.) should also be specified.

5.5.2 Inventory of System Software

This inventory should include the following details :

- Software ID/Name
- Version/Release No.
- Description
- Date of Installation

In case of client/server application, the location of the system software should also be specified.

5.5.3 Inventory of Software Package

This inventory should include the following information for all software package employed within the application system :

- Software ID/Name
- Version/Release No.
- Description
- Date of Installation

In case of client/server application, the location of the system software should also be specified.

5.6 SECURITY AND BACKUP

This part describes the backup strategy and any security control in use. Information provided should include :

System control	This sub-section should document in detail the procedure used to control the access of computer generated output/documents.
Database backup	This sub-section should describe in detail the frequency of Full/Incremental Database Backup, backup media and recycle period.
System backup	This sub-section should describe in detail the frequency of Full/Incremental System Backup, backup media and recycle period.
Recovery	This sub-section should describe the level of recovery services provided. After system failure, the application system may either be totally recovered within a short period of time, or be partially recovered within a considerable period of time, or totally irrecoverable within a considerable period of time.
Fall back procedures	This sub-section should document in detail the Fall back procedure in case system failure occurred and before it is being recovered.
Security	This sub-section should document in detail the system security profile and data protection measurement on system functions.
Change control	This sub-section should document the procedures used for the management of system software and application programs.
Disaster Recovery	This sub-section should describe in detail the Disaster Recovery Plan and Procedures.

5.7 DATABASE ADMINISTRATION

This part should describe any database administration procedures that are carried out by the project team, such as :

- database re-organization
- table extension
- table space extension
- index re-build

Those procedures carried out by the computer operation staff should be documented in the Application Operation Manual.

This part may be omitted if there is no such administration activities for this application.

5.8 SYSTEM CONSTRAINTS AND LIMITATIONS

This part should describe, item by item, the system constraints and limitations that may affect operation. Information may include :

- Transaction volume
- Frequency
- Logical sequence of events
- Period of retention of data
- Timing
- Major service level indicators

5.9 FUNCTION POINTS ANALYSIS

This part should document the detailed Function Point Analysis information of the application system. Information provided should include :

- Project category
- List of logical functions and their function counts for each of the following function types :
  - External Input (IT)
  - External Output (OT)
  - External Inquiry (QT)
  - Internal Logical File (FT)
  - External Interface File (EI)
- Total unadjusted function points
- Assessment on the degrees of influence
- Adjustment factor
- Overall adjusted function points

6. PROGRAM MANUAL

6.1 PURPOSE

The program manual contains the detailed program specification of all programs used within the application system.

During Implementation Phase, the program specification is prepared by the analyst and used by the programmer in program coding. The program specification also serve as a useful reference for future maintenance activities.

Some development environments (for example, Viasoft/SmartDoc for Mainframe/COBOL, Oracle Designer/2000 for Unix/Oracle) are capable of generating program documentation. Project teams may make use of the generated documentation whenever appropriate in the preparation of this manual, so as to minimize the effort required in preparing and updating the program manual.

Project team should tailor the program manual to fully describe any specific characteristics (e.g. event handling, message passing) of the software development environment.

If no new program is developed for the application system, the preparation of Program Manual will not be required.

6.2 TABLE OF CONTENTS

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5 PROGRAM LIST

6 PROGRAM SPECIFICATIONS
6.1 [Program ID #1]
6.2 [Program ID #2]
...

6.3 PROGRAM LIST

This part should provide a list of program specifications contained in the program manual. The program specifications may be grouped under different function groups.
For example,

5. PROGRAM LIST

A. Online Input

Program ID	Description
SSMPROJ	Support Project Maintenance
SSMSTFF	Support Staff Maintenance

B. Reports & Enquiry

Program ID	Description
SSLPROJ	Support Project List
SSLSTFF	Support Staff List

C. Batch Processing

Program ID	Description
SSMPURG	Purge outdated information

or, the program list may be sorted in alphabetical order

5. PROGRAM LIST

Program ID	Description
SSLPROJ	Support Project List
SSLSTFF	Support Staff List
SSMPROJ	Support Project Maintenance
SSMPURG	Purge outdated information
SSMSTFF	Support Staff Maintenance

6.4 PROGRAM SPECIFICATIONS

Each program specification should include the information as described below.

6.4.1 Program ID

This is the unique identification assigned to a program unit. If the code is structured, i.e. certain digit has a special meaning, this should be documented in the "Definitions & Conventions" of the program manual.

6.4.2 Mode

This describes the operation mode of the program unit. It may be any one of the following :

- Online/Update
- Batch/Update
- Batch/Report
- Online/Enquiry
- Online submit batch job
- Sub-routine

6.4.3 Program Name

A meaningful program name should be given for each program.

6.4.4 Description

This is a narrative description of the tasks to be performed by the program.

6.4.5 Programming Environment

This includes :

- Program Source Filename
- Programming Language in use
- Version of Compiler/development tools (if the program is auto-generated, the program generation tool information should be specified here)
- Program size and run time main memory requirement (if critical)

6.4.6 Amendment History

This describes the amendment made to the program specification. All changes made to the program specification must be documented.

6.4.7 File Usage

Following information are needed :

- Full name of the file/table in use
- File Usage (Read, Write, Update, Delete, File Delete, File Create, etc.)

For Client/Server application, the File Location (Database Server, Application Server, Client, etc.) and the way of accessing the file/table (e.g. using remote procedure call) should be documented.

6.4.8 Input Parameters

This describes the format of the parameters used as input to the program. If the program is a subroutine, a separate paragraph on the output parameters/ messages returned should also be given.

6.4.9 Screens Used

This is a list of all screen/window identifier involved. The screen layouts are placed in the Screen/Report Section of the Data Manual.

6.4.10 Processing Logic

This provides a narrative description on the processing steps. Sufficient details should be given for the programmers to complete coding and testing of the program. The followings should be elaborated where applicable :

- Normal start
- Special restart
- Program options
- Validity check
- Screen/Window Navigation
- Editing criteria

- Arithmetic computation and logical manipulation
- End procedures
- Events and the corresponding actions (including control break for reports)
- Message displayed

Tabular form and decision table should be used if appropriate.

6.4.11 External Reference

This describes any library procedure (subroutine) called within the program. These include special-purpose procedures written for the applications, in-house library procedures and software library procedures supplied by the manufacturers but exclude calls generated by the compiler system.

- Procedure/Function/Routine ID
- Library filename
- Input/Output Parameters
- Remarks

For client/server situation, the location of remote procedure should be documented in Remarks.

6.4.12 Program Limits

This describes areas where the capability of the program is likely to be limited by design, including :

- sequence of input data
- volume restriction
- storage limitation
- limitation on utility program usage
- maximum in-store arrays
- others

6.4.13 Unit Test Record

For each unit test performed on the program, the following should be given :

- Test number
- Test Description
- Expected/Actual Result
- Test data generating procedures (if applicable)
- Test run procedures (if applicable)

6.4.14 Program Listing

The latest version of all the programs should be kept in softcopy for future reference and maintenance. Depending on the development environment, project team should decide whether hardcopy of the program source are included in the Program Manual.

6.5 ILLUSTRATION

6.5.1 Example 1 : General Structure

This example is used to illustrate the structure of program specification.

Program ID : SSMPROJ Mode : Online/Update

Program Name : Maintain Support Project Information

Description : The program create, update, delete ...

Program Environment :

Program Source	SSMPROJ.COB
Language/	COBOL

Amendment History :

Change Number	**Revision Description**	**Revision Number**	**Date**
1	Amend the screen layout to add a flag represents whether it is an ASA project.	1.1	5.7.1995

File Usage :

File	**Usage**
TEAM	Read
USERDEPT	Read
PROJECT	Read, Write, Update, Delete

Input Parameters :

Parameter	Format	Description
G_USER	X(12)	Login User ID

Screens Used :

Screen ID	Description
SSMPROJ	Project Maintenance Main Input
LUTEAM	Team Master Look Up

Screen Navigation :

Screen ID	Called from	Calling
SSMPROJ		LUTEAM
LUTEAM	SSMPROJ	

Field Navigation :

Field	Validation/Action
Action	Only allow “A”, “D”, “U” values.
Project Code	if Action = “A” System Assign unique identifier in 9(9) format else Accept user input Project Code read PROJECT using input Project Code display error message ER0001 if record not found display Project Details if Action = “D” skip input to Confirm Flag.
Team Code	Team Code entered must already exist in the TEAM file.
User Dept Code	User Dept Code entered must already exist in the USERDEPT. Display UD_NAME as Department Name.
Confirm Flag	if “Y” if Action = “A” Insert ... record else ....

Message Used :

Message ID	**Message Text**
ERR0001	Project does not exist

External Reference :

Procedure ID	**Library Filename**	**Parameters**			**Remarks**
		I/O	**Name**	**format**	
proc_chkdate	commlib	I O	i_date status	9(6) X(1)	Commonly used sub-function

Program Limits :

1. The maximum no. of Team Lookup is 999.

...

Unit Test Record :

No	Test Description	Expected Results	Actual Results
1	Create a new project	Auto-generated project ID and project successfully created	as expected
2	Amend the newly created project - project start/end date - project name	All fields amended correctly	as expected
3	Delete the newly created project	Project deleted	as expected
4	Error Handling - Invalid action value - Non-exist team code - Non-exist user dept code - Invalid confirmation flag value	Correct error message displayed	as expected

6.5.2 Example 2 : Client/Server Online Update

The following program specification describes an online update program accessing data located in Database Server and client.

Program ID : SSMSTFF Mode : Online/Update

Program Name : Maintain Support Staff Information

Description : The program create, update, delete ...

Program Environment :

Program Source	ssmstff.frm, ssmstff.bas
Language/Compiler	Microsoft Visual Basic V4.0

Amendment History :

Change Number	**Revision Description**	**Revision Number**	**Date**
1	Change the table structure of STAFF to keep track the date the staff transfer from support team to other team.	1.1	1.7.1994
2	...	1.2	8.12.1994
3		1.3	5.7.1995

File Usage :

Table	**Location**	**Usage**	**Access Mean**
STAFF	Database Server	Read	proc_read_staff(Staff_Code)
		Insert	proc_insert_staff(Staff_Code, ...)
		Update	proc_update_staff(Staff_Code, ...)
TEAM	Client	Read	-

Input Parameters :

Parameter	Format	Description
G_USER	X(12)	Login User ID

Event Triggered :

Event	Description
-11000	Database Error
-12000	Divided by Zero

Screens Used :

Screen ID	Description
SSMSTFF	Support Staff Maintenance Main Input

Windows Navigation :

Screen ID	Modal	Called from	Calling
SSMSTFF	Y		

Menu Specification :

Menu Item			Fast Key	Disable When	Action
Level 1	**Level 2**	**Level 3**			
Support Staff Maintenance	Add new staff	Nil	Alt-SP	When window 1 is activated	Clear Screen
	Print Support Staff List				Call Program SSLSTFF

Tools Bar Specification :

Tool Bar Name	Fast Key	Disable when
Previous Record	Alt-P	No Record retrieved. 1st record already displayed
Next Record	Alt-N	...
Help	Alt-F1	Enabled at all time

Window Event :

Screen Objects	**Event**	**Action**
For Window SSMSTFF :		
Window	Startup	Reset ...
Staff Code	Input	Staff Code must be numeric call proc_read_staff(Staff_Code) returning Staff Details If Staff Code already existed in File ABC ...
Development Experience (check box)	Check	Enable the input of Development Experience field.
	Un-check	Set Development Experience to Nil. Disable the input of Development Experience.
Scan Button	Click	call proc_scan_photo
Confirm Button	Click	Retrieve ... if ... then ... endif. Update ...

Message Used :

Message ID	**Message Text**
ERR0001	Project does not exist

External Reference :

Procedure ID	**Library Filename**	**Parameters**			**Remarks**
		I/O	**Name**	**format**	
proc_read _staff	commlib	I O	codes status	9(12) X(1) ...	Remote Procedure Call - locate in Database Server. Activate event -11000 if server not available.
proc_scan _photo	scanlib	O	bitmap	Large Binary Object	Procedure supplied by the scanner vendor. Refer to XXX document for details

Program Limits : ...

Unit Test Record : ...

6.5.3 Example 3 : Batch Update and Report

A batch update and report program called by a parameter input program.

Program ID : SSMPURG Mode : Batch/Update

Program Name : Purge outdated project support information.

Description : Purge outdated project support information and print a detail report showing the purged project history.

Program Environment :

Program Source	ssmpurg.c
Language / Compiler	ANSI C with Oracle Pro*C pre-compiler

Amendment History :

Change Number	**Revision Description**	**Revision Number**	**Date**

File Usage :

Table	**Usage**
STAFF	Read
TEMPTABLE	Table Create, Insert, Table Drop
PROJECT	Read, Delete
TEAM	Read

Input Parameters :

Parameter	Format	Description
G_USER	X(12)	Login User ID

Event Triggered :

Event	Description
-11000	Database Error
-12000	Divided by Zero

Report Groups :

Sorting Sequence	Data Items	Control Break	Remarks
1	Project End Date	1	
2	Project Code	2	Page Break
3	Project Event Date		

Retrieval Logic for report:

```
For each PROJECT with PROJECT.STATUS = "C" {Completed}
                      and PROJECT.END_DATE on or after 1 year before
   ordered by END_DATE, CODE
   Retrieve STAFF with CODE = PROJECT.SUPPORT_STAFF
    Retrieve TEAM with TEAM.CODE = PROJECT.TEAM_CODE
   (Project Name = PROJECT.DESCRIPTION
    Staff Code = STAFF.CODE
    Staff Name = STAFF.NAME
    Project Team = TEAM.DESCRIPTION
    ...
    )
        Retrieve PROJECT_HISTORY
            with CODE = PROJECT.CODE
            ordered by PROJECT_HISTORY.EVENT_DATE

        (Event Date = PROJECT_HISTORY.EVENT_DATE
         Event = if PROJECT_HISTORY.EVENT is "S" then "Start"
                                                "A" then  ...
          ...
        )
```

Processing Logic for Purging :

For all PROJECT records with END_DATE on or before 2 years
delete PROJECT_HISTORY
with PROJECT_HISTORY.PROJECT_CODE = PROJECT.CODE
delete PROJECT record
....

Program Limits : ...

Unit Test Record : ...

7. DATA MANUAL

7.1 PURPOSE

The Data Manual documents all computer data captured, processed or produced by the system. The various forms of data to be described in the manual include :

* Source Document
  Source Document involved in the system for data input purpose.

- Data file
  Data which are kept in the system for future processing. These can be conventional structured file or database.

- Screen/Report
  All Screens/Reports or documents which are output on printer, external media or video display terminal.

Some development environments are capable of generating most of the information required in the Data Manual. Project Teams are recommended to make the best of the document generating features of the tools, so as to save the effort required in preparing and updating the document.

If none of the above forms of data is designed for the application system (e.g. in the setting up of a pure LAN), the preparation of Data Manual will not be required.

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5.2.2 [Document ID #2]
5.2.3 ....

6 DATA FILE DESCRIPTION
6.1 Data Structure Chart
6.2 List of Files
6.3 File/Table Description
6.3.1 [File ID/View ID #1]
6.3.2 [File ID/View ID #2]
6.3.3 ....

7 SCREEN/REPORT DESCRIPTION
7.1 List of Screens
7.2 Screen Layout
7.2.1 [Screen #1]
7.2.2 [Screen #2]
...
7.3 List of Reports
7.4 Report Layout
7.4.1 [Report #1]
7.4.2 [Report #2]

.

In case the data is distributed across different machines, the DATA FILE DESCRIPTION should be grouped under different platforms as illustrated below :

6 DATA FILE DESCRIPTION - DATABASE SERVER
6.1 Data Structure Chart
6.2 List of Files
6.3 File/Table Description
6.3.1 [File ID/View ID #1]
6.3.2 [File ID/View ID #2]
6.3.3 ....

7 DATA FILE DESCRIPTION - APPLICATION SERVER
7.1 Data Structure Chart
7.2 List of Files
7.3 File/Table Description
7.3.1 [File ID/View ID #1]
7.3.2 [File ID/View ID #2]
7.3.3 ....

7.3 SOURCE DOCUMENT DESCRIPTION

7.3.1 List of Documents

This section should list out the following information :

- Form No.
- Purpose/Form Description

7.3.2 Document Description and Sample

This section should briefly describe when the source document is used and what it is used for. Sample of the input document should be attached. In additional to the blank document, "filled-in" document may also be included.

7.4 DATA FILE DESCRIPTION

The following items are the minimum information that needs to be included in the Data Manual. Depending on the implementation platform, additional information may be needed. For example, some database management provides constraint rule reinforcement facility, which should be documented in this section.

7.4.1 Data Structure Chart

The Data Structure Chart (database schema) is used to show the relationship among files/tables or other groups of data.

If the data are distributed across different hardware platforms, separate data structure chart should be provided for each platform.

7.4.2 List of Files

This section should list out the following information :

- File ID
- Type (E.g. DB2, VSAM or Oracle Table)
- Description

If the data are distributed across different hardware platforms, separate list of file should be provided for each platform.

7.4.3 File/Table Description

- File Description

  This sub-section should describe the detailed information of the data file/table, including file/table physical name, narrative description and other implementation related information (e.g. tablespace assigned, segment, blocking factor, etc.).

  In case the file contains multiple record types, description for each record type should be provided.

  Any data replication information should also be documented here. For example, if File A is an image (or extracted summary) of File B as at last month end, this relationship needs to be documented in both File Description of File A and File B. Noted that File A and File B may locate in same machine, or in different machines in distributed data cases.

- Record Description

  This sub-section should list out the record structure, including field/column name, description, size and format (stored and display), etc.

  If there are multiple record types for a data file, or REDEFINE clause is used, there should be multiple record description for the data file.

- Index Description

  This sub-section can be omitted if the index are embedded in the data file and documented in the Record/Row Description.

  For each index of the corresponding data file/table, the field/column involved and their sequence (Ascending or Descending) should be specified. If any environment specific facility is applied, for example, cluster index or bit map index, the information should also been documented.

For example : The Table/Row/Index Description for Oracle RDBMS table A_CODE

6.3.1 A_CODE

6.3.1.1 File Description

A_CODE contains ..... information.

tablespace for data: user_table_space1
tablespace for index A_CODE_IND1 : user_index_space1
...

6.3.1.2 Record Description

Column	**Description**	**Attribute**	**Size**	**Output Format**	**Null ?**
A_CODE	A code	varchar2	5	XXX-XX	N
A_DESC	A description	varchar2	30	X(30)	Y
A_PCT	A percentage	number	4,2	9999.99%	N

6.3.1.3 Index Description

Index	**Uniqueness**	**Column**	**Order**	**Remarks**
A_CODE__IND1	YES	A_CODE	Ascending	Cluster Index
		A_DESC	Ascending	
A__CODE_IND2	NO	A_DESC	Descending	

For example : The Record Description for Index Sequential File with multiple record type.

6.3.1 A_MASTER

6.3.1.1 File Description

A_MASTER file contains ..... information.

The Header Record is used to ....
The Tx. Record are used to ...

Blocking Factor : ...
Record Size : ...
(if record size for each record type is different,
the record size will be documented in Record Description)

6.3.1.2 Record Description

6.3.1.2.1 Record Type : Header Record

Field	**Key**	**Description**	**Picture**	**Output Format**	**Remarks**
A-CODE	Y	A code	X(5)	XXX-XX	
REC-TYPE	Y	Record Type	X(1)	X	= "1" for header record
FILLER	Y	Filler	X(6)	X(6)	Blank
A-DESC		A description	X(30)	X(30)	
A-PCT		A percentage	99V99	99.99%	
FILLER			X(30)	X(30)	

6.3.1.2.2 Record Type : Transaction Record

Field	**Key**	**Description**	**Picture**	**Remarks**
A-CODE	Y	A code	X(5)	
REC-TYPE	Y	Record Type	X(1)	= "2" for Tx Record
A-TX-DATE	Y	Tx Date	9(6)	in YYMMDD
TX_DTL		Tx Details	X(50)	

In the above case, the key is embedded in the data file, and thus the Index Description is omitted.

7.5 SCREEN/REPORT DESCRIPTION

7.5.1 List of Screens

This section should list out all screen ID (and description if applicable) by screen ID or functional group sequence.

7.5.2 Screen Layout

This section should give a collection of all screen layouts as mentioned in the List of Screen.

7.5.3 List of Reports

This section should list out all report ID (and description if applicable) by report ID or functional group sequence.

7.5.4 Report Layout

This section should give a collection of all the Computer Output (reports, pre-printed form, etc.) layouts as mentioned in the List of Report.

8. APPLICATION OPERATION MANUAL

8.1 PURPOSE

The purpose of the Application Operation Manual (AOM) is to provide relevant information to the computer operation staff of the system implemented. It should document in detail the instructions of all the work to be performed by the computer operation staff in running the application system. The work handled by end user should be documented in the Application User Manual.

If no additional activity is introduced to the computer operation staff after the application system is implemented, the preparation of AOM will not be required.

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7 SYSTEM OUTPUT REPORTS
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.....

10 ERROR HANDLING
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10.2 Non-Critical Errors Handling
10.3 Other Errors Handling Procedures
10.3.1 Input Tape Error Handling
10.3.2 Error Message Handling
10.4 Job Restart Procedure
10.5 Contact Points

8.3 SYSTEM DESCRIPTION

8.3.1 System Overview

This section should briefly describe the major functions provided by the application system.

8.3.2 Job Identification/Description

This section should describe the naming convention for a job.

8.3.3 System Flow

This section should document the flow of the system in which all programs, input and output media are shown.

8.3.4 Job Run Flow

This section should describe the sequence for all separate jobs using Job Run Flow diagram.

8.3.5 Summary of Program Description

This section should provide a brief summary about the job program's description.

8.4 SYSTEM MEDIA INPUT OUTPUT

This part should describe in detail the nature of input and output media.

8.4.1 Input Tapes/Discs

This section should describe the media required for input.

8.4.2 Output Tapes/Discs

This section should describe the media required for output.

8.5 SYSTEM OUTPUT REPORTS

This part should describe in brief all reports output from the Application System. The reports are classified as :

- Daily Reports
- Weekly Reports
- Monthly Reports
- Other Reports (For example, such as Microfilm)

8.6 OPERATIONS DESCRIPTION

This section should describe the Operation schedule and service hours of the Application System. The schedule are classified as :

- On-line Schedule
- Batch Schedule
- Adhoc Schedule

8.7 RUN JOB SPECIFICATIONS

This part should describe (by job) the specifications of all jobs processed. It includes the following information :

- Jobname and Job Function
- Estimated Run Time
- Parameters
- Requirement/Limitation
- Program Sequence
- Restart Procedures
- Output Listings

8.8 ERROR HANDLING

This part should describe the following :

- Procedure for handling Job failure and Job restart. Project Team is required to provide detail and clear cut instruction on this topic.
- Example on Job restart Procedure.
- Contact Persons for User and Project Team.

8.9 ILLUSTRATION

Below is an example of the content of Application Operation Manual :

1. PURPOSE

The purpose of this manual are :

- provides relevant information on the various functions on the computer system
- serves as a guideline for Control Staff of OGCIO's Computer Operations Division on the operation procedures for job preparation, submission and monitoring; report checking and dispatching; and restart procedures.

2. SCOPE

This document define the operation procedure for [System Name] Application System. It should be reference for all operation staff involved in the [System Name] application operation.

3. REFERENCES

3.1 STANDARDS

Documentation Standards for Implementation Phase [S8]

3.2 OTHER REFERENCES

Nil

4. DEFINITIONS AND CONVENTIONS

4.1 DEFINITIONS

Nil

4.2 CONVENTIONS

Nil

5. SYSTEM DESCRIPTION

5.1 SYSTEM OVERVIEW

The [System Name] performs the major function on .....

It was an integrated system of the following sub-systems :

- Driving Offence Points Record Processing
- Drivers Licensing
- [Sub-system #3]
- [Sub-system #4]

5.1.1 Driving Offence Points Record Processing

The explanation on functions performed by sub-system.

5.1.2 Drivers Licensing

The explanation on functions performed by sub-system.

5.1.3 [Sub-system #3]

.....
.....

5.2 JOB IDENTIFICATION/DESCRIPTION

PXXZZZnn is the Job Name where :

P = Production job

XX = Job Identification of [System Name]

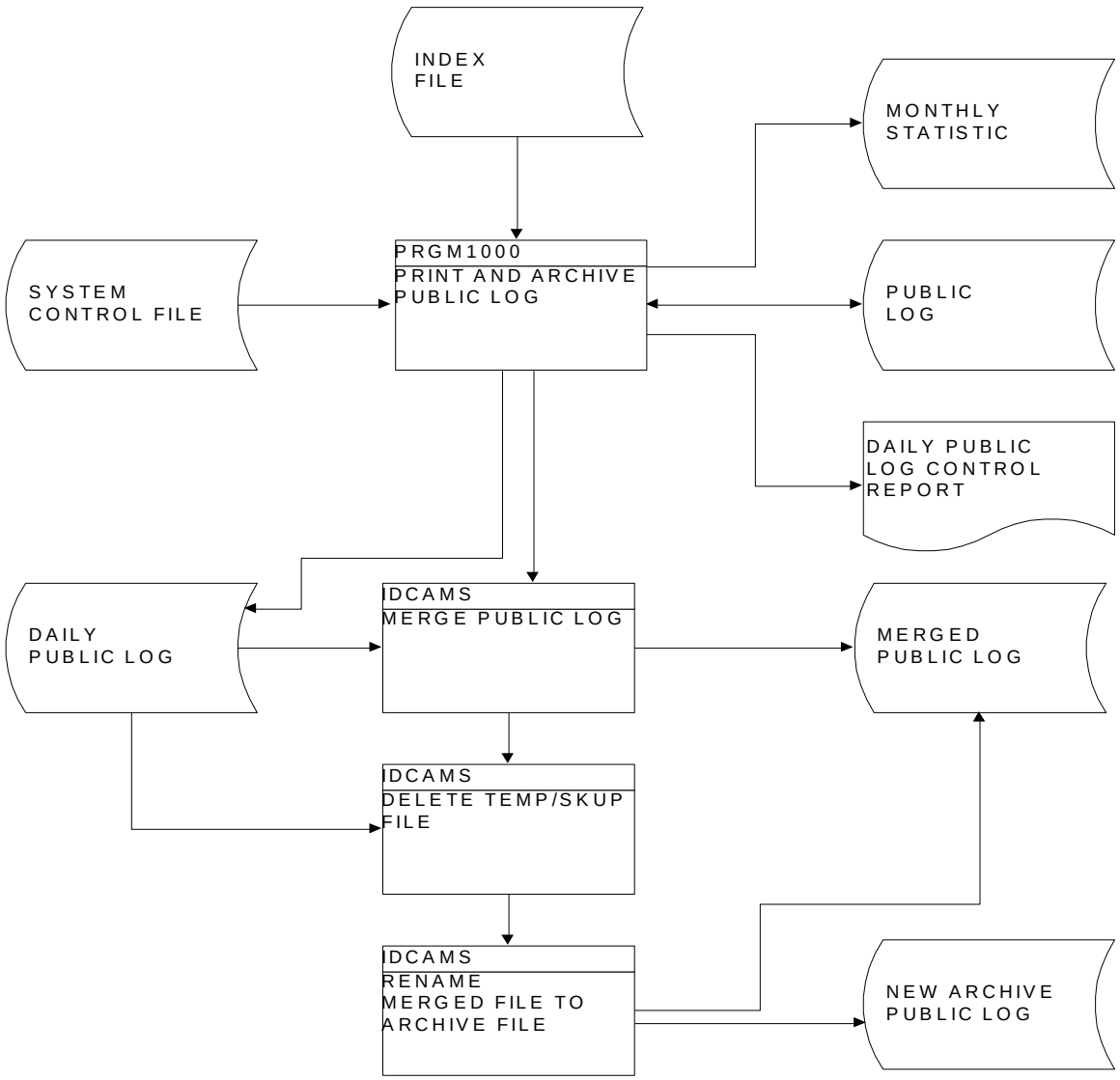
ZZZ = Jobname/Nature of the Job.

UPT = Update
SRT = Sort
MRG = Merge
PRT = Print
HKP = Housekeeping
ADC = Adhoc

nn = The assigned Job number 01, 02 ... 99 etc.

5.3 SYSTEM FLOW

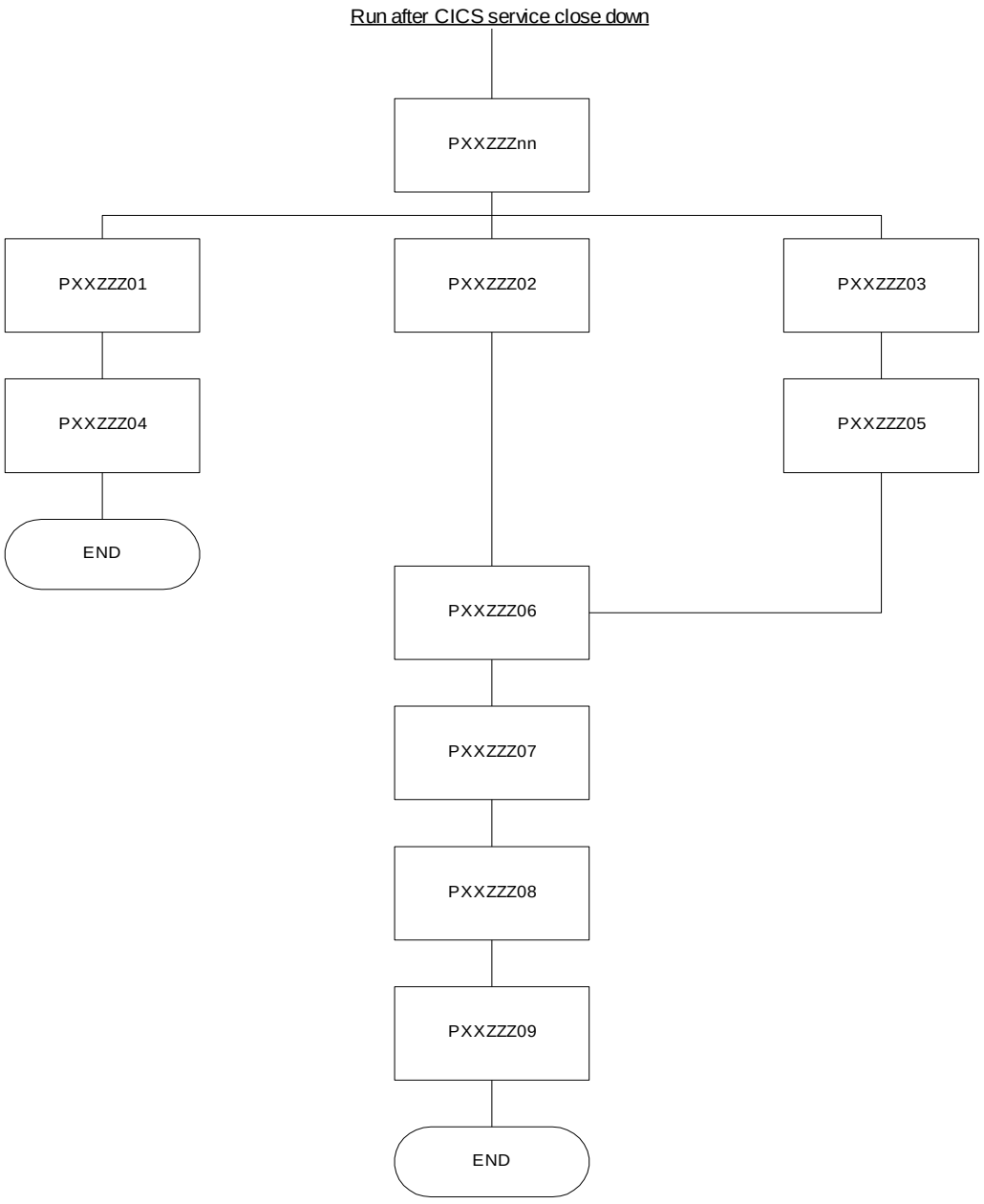
5.3.1 [Sub-system #1] System Flow



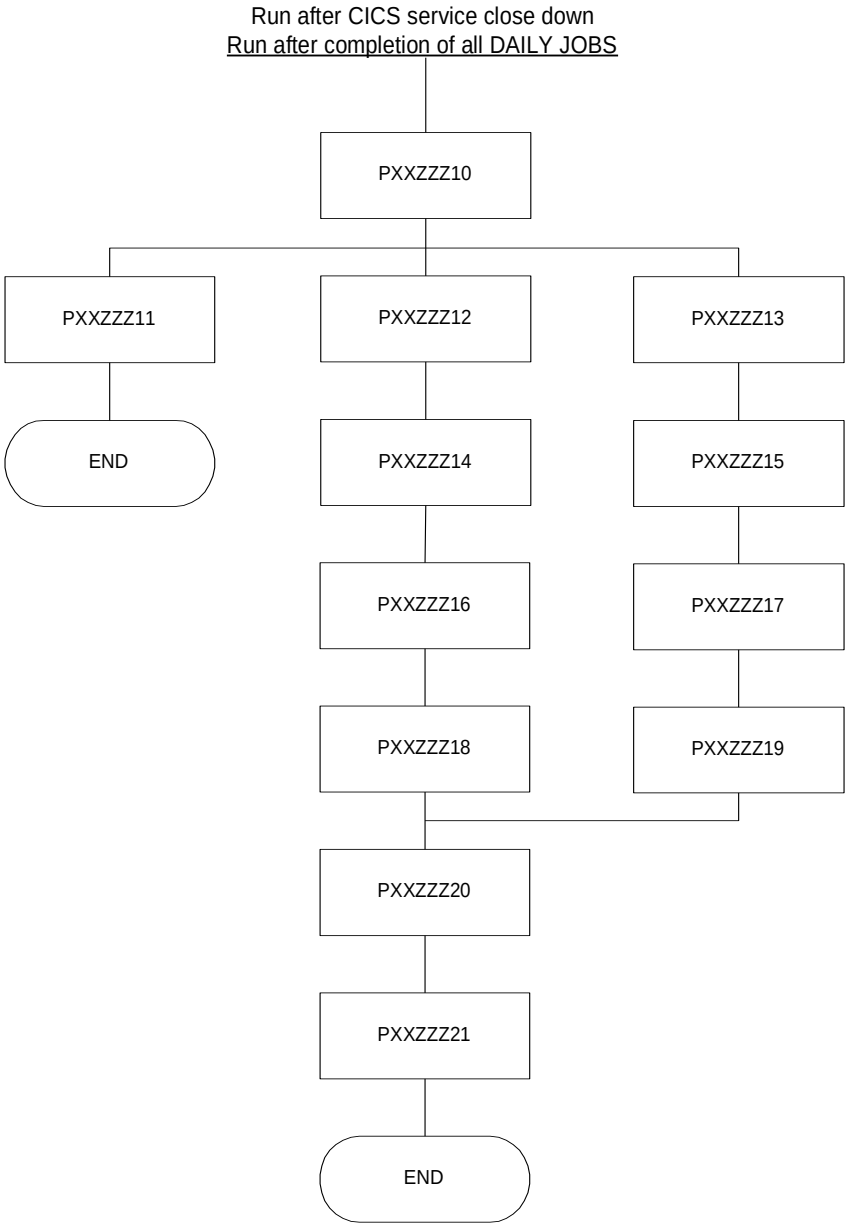
5.3.2 .....

5.4 JOB RUN FLOW

5.4.1 Job Run Flow -- Daily Job



5.4.2 Job Run Flow -- Weekly Job



5.4.3 .....

5.5 SUMMARY OF PROGRAM DESCRIPTION

Jobname	**Program ID**	**Program Description**
PXXUPTnn	PRGM1000	Update payment transaction
	PRGM2000	Generate daily payment report
	PRGM3000	Cancel Account
PXXZZZnn	PRGM4000	.....

6. SYSTEMS MEDIA INPUT AND OUTPUT

6.1 INPUT TAPES/DISCS

Jobname	**Data Set Name**	**File Description**	**Medium**	**Freq**	**No. of Copy**
PXXUPTnn	XXXXX.YYY.ZZ	Update Enquiry	Open Reel	D	1
PXXSRTnn	.....	.....	Cartridge	W	4
PXXPRTnn	.....	.....	Disc	M	3

Note : D= Daily, W= Weekly, M= Monthly

6.2 OUTPUT TAPES/DISCS

Jobname	**Data Set Name**	**File Description**	**Medium**	**No. of Copy**	**Retention Period**
PXXUPTnn	XXXXX.YYY	File Code	Disc	7	7 Days
PXXSRTnn	.....	.....	Cartridge	2	2 Weeks
PXXPRTnn	.....	.....	Cartridge	3	3 Months
			Disc		3 Days

7. SYSTEM OUTPUT REPORTS

7.1 DAILY REPORTS

Jobname	Report ID	Report Name	Media In Use	Decollating Yes/No	No. of Copy
PXXUPTnn	[Report ID #1]	Update Report	S1P	No	3
	[Report ID #2]	Daily Checklist	S1P	No	2
PXXPRTnn	.....	.....			

7.2 WEEKLY REPORTS

.....

7.3 MONTHLY REPORTS

.....

7.4 YEARLY REPORTS

.....

7.5 OTHER REPORTS - MICROFILM/MICROFICHE

Jobname	File ID/ File Description	Microfiche Master / Copy		Rollfilm	Freq.
PXXUPTnn	[File ID #1]	1	1	1	Weekly
	[File ID #2]	1	2	1	Monthly
PXXPRTnn	.....	.....			

8. OPERATION DESCRIPTION

8.1 ON-LINE SCHEDULE

Monday through Friday	0800 - 1800
Saturday	0800 - 1300
Sunday	No on-line service
Public Holidays	No on-line service

8.2 BATCH SCHEDULE

.....

8.3 ADHOC SCHEDULE

Request are forwarded to Production Control via Job Submission Form.

9. RUN JOB SPECIFICATIONS

9.1 PXXZZZnn

9.1.1 Function

- To merge all I/P Master Records
- To sort Master Records
- To print Master Record list

9.1.2 Estimate Run Time

15 minutes

9.1.3 Parameters

Nil

9.1.4 Requirement/Limitations

- Run daily at 18:00 after close of On-line CICS
- Cannot run with other batch job

9.1.5 Program Sequence

Step	**Program**	**Highest RC**	**Function**
STEP001	PRGM1010	00	Merge Master Records
STEP002	PRGM1020	00	Sort Master Records
STEP003	PRGM1030	00	Print Record List

9.1.6 Restart Procedure

In case of System error, simply rerun job from Job Step.
Other than System Failure, please refer Chapter 10.

9.1.7 Output Listings

- Journal
- P1030LST - Master Record List

10. ERROR HANDLING

Unless otherwise specified in Run Job Specification that it would affect the on-line service on next day or immediate on-line service, all jobs are considered non-critical.

Operator would contact Support Staff only if critical job failed again after carried out normal restart/recovery actions. Usually, it is Data Base updating job that would affect the on-line service. In case of job failure and recovery fails due to problem on recovery procedure, Project Team should update/amend the AOM in the following day.

10.1 CRITICAL ERRORS HANDLING

When a job aborts, refer to Run Job Specifications of the AOM and follow the procedures to prepare for restart or recovery. If a critical job fails to recover, Production Control Staff is required to contact Support Team of the Application for advice. Also, to record all information about job failure, such as time, date and actions performed for further investigation.

10.2 NON-CRITICAL ERROR HANDLING

All jobs are considered non-critical unless otherwise specified. All non-critical jobs should have their own recovery procedure. Step by step and job by job. If the procedure does not work and cause failure on job recovery, Production Control staff should follow up the case to inform Support Team to amend/update the AOM as soon as possible.

10.3 OTHER ERRORS HANDLING PROCEDURES

10.3.1 Input Tape Error Handling

	Error	**Action**
1	Error in DUMMY or VOLSER parameter values	1. Verify the parameter values 2. Correct errors 3. Resubmit the job
2	Duplicate Volume Serial Numbers	1. Verify the parameter values 2. Correct errors 3. Resubmit the job
3		

10.3.2 Error Message Handling

Jobname	**Program**	**Message**	**Action**
PXXZZZ01	PXX001	E010:Invalid Control File	Check the file content
		E020:Empty System File	Check System File content
		E030, E035-E038: SQL Error	Contact OGCIO Support ASAP
PXXZZZ02	PXX002	E020:Records not matched	Check I/P Parameter. If typing mistake, rerun from beginning If not typing mistake, contact User for correct I/P Parameter during office hours.
	PXX003	E030:Subscriber not exist	Information only. Inform Project team during office hours

10.4 JOB RESTART PROCEDURE

10.4.1 PXXX001

10.4.1.1 Normal Job Steps

```
000001 //PXXX0001   JOB (PXXX,YYYY), 'PRINT DAILY REPORT',
000002 //           CLASS=P, MSGCLASS=X, MSGLEVEL=(1,1),
000003 //*          RESTART=XXXXXXXX,
000004 //           REGION=8M
000005 //*
000006 //JOBLIB     DD   DSN=.....
000007 //           DD   DSN=.....
000008 //           .....
000009 //           .....
000010 //JOBPROC*   DD   DSN=.....
000011 //*
000012 //* DELETE FILES
000013 //*
000014 //DELSTEP1   EXEC PGM=IEFBR14
000015 //.....
```

10.4.1.2 If job aborted on step 'DELSTEP1'

Replace

```
000001 //PXXX0001   JOB (PXXX,YYYY), 'PRINT DAILY REPORT',
000002 //           CLASS=P, MSGCLASS=X, MSGLEVEL=(1,1),
000003 //*          RESTART=XXXXXXXX,
000004 //           REGION=8M
```

to

```
000001 //PXXX0001   JOB (PXXX,YYYY), 'PRINT DAILY REPORT',
000002 //           CLASS=P, MSGCLASS=X, MSGLEVEL=(1,1),
000003 //           RESTART=XXXXXXXX,
000004 //           REGION=8M
```

Then submit job for rerun.

10.5 CONTACT POINTS

User Support	Office Hours (0845-1730)	Other Hours
1st line - [Support Staff #1]	[Phone No. #1]	[Pager #1]
2nd line - [Support Staff #2]	[Phone No. #2]	[Pager #2]
Maintenance Support		
1st line - [Support Staff #3]	[Phone No. #3]	[Pager #3]
2nd line - [Support Staff #4]	[Phone No. #4]	[Pager #4]

9. APPLICATION USER MANUAL

9.1 PURPOSE

The purpose of the Application User Manual is to provide relevant information to the user department of the system implemented. The intended users of the manual are the staff of the user department who will use the system.

The manual should contain detailed instructions in addition to an overall description of the procedures. The detailed instructions should be made up of a set of standard instructions, each part being complete in itself describing a logically distinct function (e.g. procedures relating to a particular transactions). The idea is that copies of different parts would be distributed to different persons whose duties are to carry out the particular work. In other words, the standard instructions would be able to form part of the job description of a post.

If the application provides online facilities for the user, a part on the terminal operating procedures should also be documented.

Normally, it is the user responsibility to prepare the Application User Manual. Project team should provide adequate assistance to the user in preparing the manual.

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5.2 System Functions

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6.1 Computer Hardware
6.2 Ancillary Machinery
6.3 Consumable and Media

7 SUMMARY OF OPERATION PROCEDURES
7.1 User Procedures
7.2 Terminal Input Procedures

8 RUN SCHEDULE

9 COMPUTER INPUT DOCUMENTS

10 COMPUTER OUTPUT DOCUMENTS

11 TERMINAL OPERATING INSTRUCTIONS

9.3 SYSTEM SUMMARY

(Replicate from System Manual)

This part summarizes what the system provides for the user departments.
Refer to Chapter 5 for details.

9.4 EQUIPMENT CONFIGURATION

(Replicate from System Manual)

This part should provide the equipment in use for the application system.
Refer to Chapter 5 for details.

9.5 SUMMARY OF OPERATION PROCEDURES

9.5.1 User Procedures

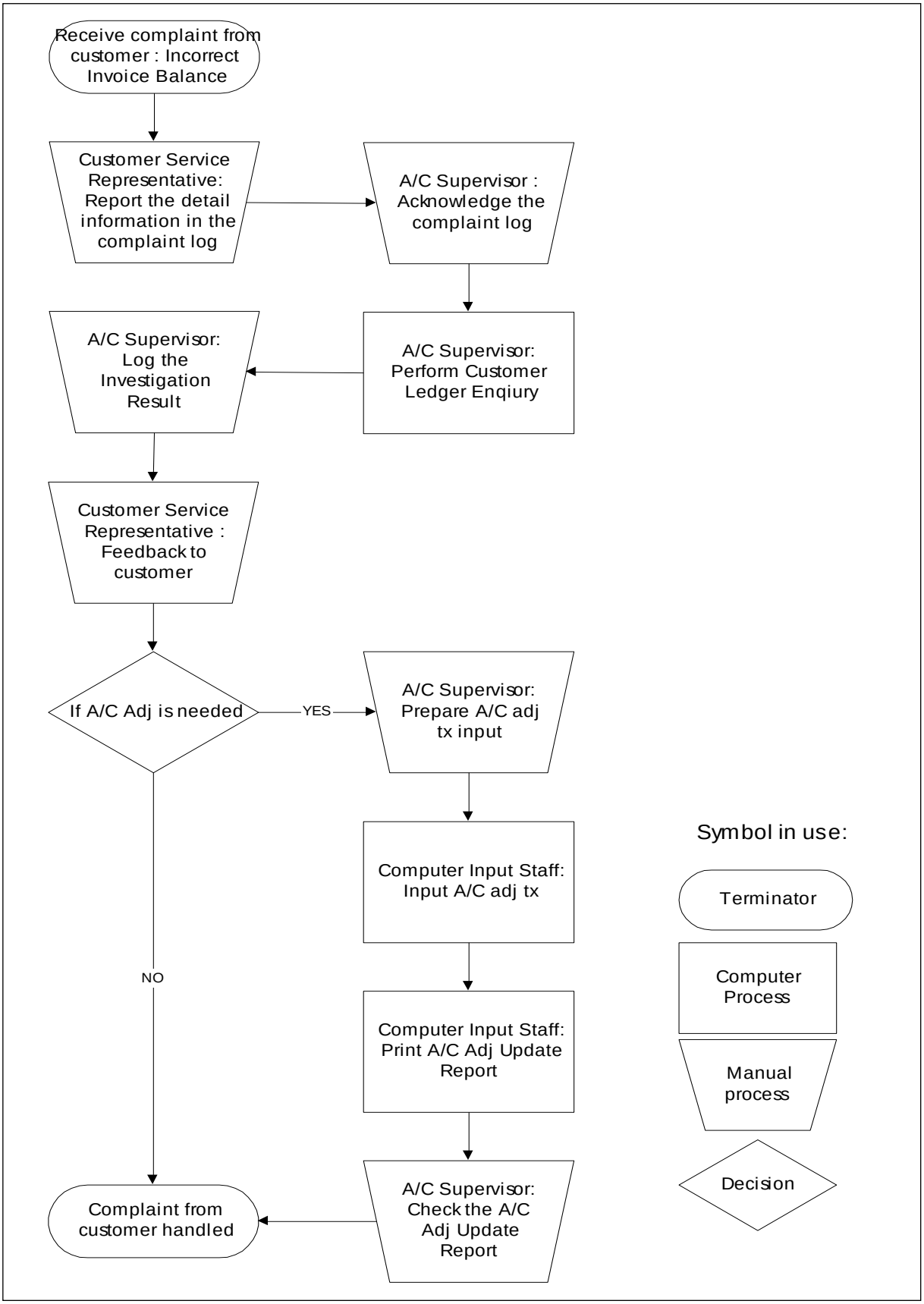
This section should contain procedures description and instructions in detail covering areas like batching of input data, control of documents, actions on specific events, error amendments, etc.

Clerical procedures that will directly trigger a computer process, or is being triggered by a computer process should be documented.

Below is an example of the User procedure to handle complaint from customer on incorrect invoice outstanding balance.

Section/ User Role	**Clerical Procedures**	**Computer Procedures**	**Form/Screen /Report Ref**
Event : Complaint from customer, the outstanding balance on invoice is incorrect. Event occurred randomly.			
Customer Service Representative	Report the detail information in Complaint Log and pass to A/C dept		Form CL001
A/C Supervisor	Acknowledge complaint log	Perform Customer Ledger Enquiry to investigate the situation.	Screen SCM013
	The investigation result was logged.		Form CL001
Customer Service Representative	Feedback the result to customer		
	If manual adjustment is needed, prepare adj tx input		Form ADJ010
Computer Input Staff		Perform Adjustment Tx entry process according to A/C supervisor instruction	Screen SCM015
		Print Adj update report	Report SCP040
A/C Supervisor	Check the Adj update report		

An alternative way to document the User Procedures is using diagram, such as following :


Receive complaint from customer : Incorrect Invoice Balance
Customer Service Representative: Report the detail information in the complaint log
A/C Supervisor : Acknowledge the complaint log
A/C Supervisor: Perform Customer Ledger Enqiury
A/C Supervisor: Log the Investigation Result
Customer Service Representative : Feedback to customer
If A/C Adj is needed
YES
A/C Supervisor: Prepare A/C adj tx input
Computer Input Staff: Input A/C adj tx
Computer Input Staff: Print A/C Adj Update Report
A/C Supervisor: Check the A/C Adj Update Report
NO
Complaint from customer handled
Symbol in use:
Terminator
Computer Process
Manual process
Decision

9.5.2 Terminal Input Procedures

This section should specify the instructions for carrying out the application functions (transactions) via the video display terminal covering data entry, error corrections and actions on specific events. Screen formats should be included. The validation rules for critical data item should be documented. A list of error messages that the system may generate, their meanings and the corresponding corrective actions should be fully documented.

Below is an example of Terminal Input Procedures of a simple master file maintenance.

Maintain Salesman Information

A. Screen Layout
....
B. Instructions

To Do	**Action Required**	**Remarks**
Add a new salesman	1. Input "A" in Action 2. Input salesman detail 3. Input "Y" upon confirmation.	1. System will generate the salesman code automatically.
Change salesman details	1. Input "U" in Action 2. Input Salesman Code 3. Change the Salesman details accordingly. 4. Input "Y" upon confirmation.	1. The salesman must already exists.
Delete a salesman	1. Input "D in Action 2. Input Salesman Code 3. Input "Y" upon confirmation.	1. The salesman must already exists. 2. The salesman must have no outstanding commission. ...

C. Messages and Action

Messages	Nature	Action
Salesman Code does not exists	Error	Check if the wrong salesman code is inputted.
Outstanding Commission exists, salesman cannot be deleted	Error	Withhold the deletion. Pass the case to accounting dept for investigation....

9.6 RUN SCHEDULE

This part should provide detailed schedule for each periodic and ad hoc job to be triggered by users. Those processes handled by Computer Operation Staff can be omitted here. Information provided should include :

- Event
- Scheduled date/time
- Jobs/macros used (if any)
- Estimated run time

9.7 COMPUTER INPUT DOCUMENTS

This part should provide detailed instructions for the preparation of computer input documents. A completed sample of each document should be given.

- Document-id
- Purpose
- When used
- Fill in instructions

9.8 COMPUTER OUTPUT DOCUMENTS

This part should describe all output documents produced by the system and detailed instructions on the checking of such documents. A completed sample of each output documents should be given.

- Printout-id
- Purpose
- No. of copies
- Filing instructions
- Checking instructions
- Messages displayed
- Meaning and action

9.9 TERMINAL OPERATING INSTRUCTIONS

This part should describe in detail steps and instructions in operating terminal. It should cover :

- Power on/off of the Terminal
- Signing on/off
- Meaning of function keys
- Preliminary fault diagnosis checking (lamps setting, modems)
- Fault reporting

10. COMPUTER OPERATING PROCEDURES MANUAL

10.1 PURPOSE

The Computer Operating Procedures Manual provides information and operating instructions related to the operating of the computer system. The intended users are the operating staff of the computer operation department.

This manual should be site-specific. For established computer site with this manual already prepared, there is no need to re-produce it for individual system introduced into the site. However, please note that some parts of the manual, for example the Hardware Configuration or the System Files section, may need to be updated due to the introduction of new system.

It should be noted that the manual is not intended to be a complete replacement of the formal technical publication as issued by the manufacturer. Information and instructions documented in the manual would be specific to the installation and should take precedence over the manufacturer's counterparts.

When the system is to be operated by the end users themselves, the detailed procedures would be explained in the Application User Manual instead.

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5.1.1 Computer Hardware Configuration
5.1.2 Communication Network Configuration
5.2 Hardware Components Description
5.3 System Software Environment
5.4 Systems Files

6 COMPUTER SYSTEM OPERATING PROCEDURES – NORMAL CASE
6.1 Powering On/Off
6.2 Switching On/Off The Hardware Components
6.3 Loading/Closing Down the Computer System/Communication Network
6.4 Media Placement
6.5 Scheduling & Spooling
6.6 System Prompts/Exceptions Handling

7 COMPUTER SYSTEM OPERATING PROCEDURES – ABNORMAL CASE
7.1 Taking System Dumps
7.2 Checking the Air-Conditioning System/Power Supply System
7.3 Fault Reporting Procedures
7.4 First Line System Crash/Communication Faults Diagnosis

8 COMPUTER SYSTEM OPERATING PROCEDURES – RESTART CASE
8.1 Reloading Procedures
8.2 Reconfiguration (Switching of Network)
8.3 Degraded Mode Operating Procedures

9 MAGNETIC TAPE HANDLING
9.1 Tape Deck Handling
9.2 Magnetic Tape Failure Recover/Reporting
9.3 Labeling of Magnetic Tapes

10 OPERATION HOUSEKEEPING JOBS
10.1 System Files Backup
10.2 Magnetic Media Cleaning

APPENDIX A

CROSS REFERENCE BETWEEN SSADM DELIVERABLES AND THE CORRESPONDING DOCUMENTS/SECTIONS

Document/Section	SSADM Deliverables
SYSTEM MANUAL	
1 Purpose	N/A
2 Scope	N/A
3 References	N/A
4 Definitions and Conventions	N/A
5 System summary	
5.1 Objectives	N/A
5.2 System functions	Function Definition
6 Equipment configuration	) Selected Technical System
6.1 Computer hardware	) Option
6.2 Ancillary machine	)
6.3 Consumable and media	)
7 Software Inventories	
7.1 Inventory of application programs	Process Module
7.2 Inventory of system software	) Selected Technical System Option
7.3 Inventory of software package	)
8 Security and backup	Audit, Control and Security Requirements
9 Database administration	N/A
10 System constraints and limitations	Constraints List
11 Function point analysis	Function Point Analysis

Document/Section		SSADM Deliverables
PROGRAM MANUAL		
1	Purpose	N/A
2	Scope	N/A
3	References	N/A
4	Definitions and Conventions	N/A
5	Program List	N/A
6	Program Specifications	Process Module
DATA MANUAL		
1	Purpose	N/A
2	Scope	N/A
3	References	N/A
4	Definitions and Conventions	N/A
5	Source document description	N/A
6	Data file description	(Required System LDS (Required System Entity Description
7	Screen/Report description	(Screen Layout (Report Layout

Document/Section		SSADM Deliverables
APPLICATION OPERATION MANUAL		
1	Purpose	N/A
2	Scope	N/A
3	References	N/A
4	Definitions and Conventions	N/A
5	System description	
	5.1 System overview	Required System Overview of Required System Description
	5.2 Job identification/description	N/A
	5.3 System flow	N/A
	5.4 Job run flow	N/A
	5.5 Summary of program description	Process Module
6	System media input and output	N/A
7	System output reports	N/A
8	Operations description	N/A
9	Run job specification	N/A
10	Error handling	N/A

Document/Section		SSADM Deliverables
APPLICATION USER MANUAL		
1	Purpose	N/A
2	Scope	N/A
3	References	N/A
4	Definitions and Conventions	N/A
5	System summary	
	5.1 Objectives	N/A
	5.2 System functions	Function Definition
6	Equipment configuration	) Selected Technical System
	6.1 Computer hardware	) Option
	6.2 Ancillary machine	)
	6.3 Consumable and media	)
7	Summary of operation procedures	
	7.1 User procedures	Required System Description
	7.2 Terminal input procedures	Screen Layout
8	Run schedule	N/A
9	Computer input documents	N/A
10	Computer output documents	Report Layout
11	Terminal operating instructions	N/A

APPENDIX B

GOA PROJECTS

Due to project characteristics, only three manuals will be produced in GOA Projects as final documentation for Implementation Phase. The Application User Manual and Computer Operating Procedures Manual would be used as cook books for daily operation, whereas System Manual would be treated as the primary reference materials for future system maintenance. The table of contents of the three manuals are stated in the following pages.

In order to produce the above three manuals during Implementation Phase, the following SDLC major steps and interim deliverables should be followed and produced :

SDLC Major Steps	Deliverables	Guidelines / Techniques
Physical System Design	- User requirements and existing configuration - Vertical Network Requirement Report - Horizontal Network Requirement Report - E-mail System Implementation/Migration Proposal - Site Preparation Requirement Report - Network Installation Guide - Router Configuration Proposal - Master Activity Plan	[G35], [G41], [G43], [G44],
System Integration, Testings & Installation	- Prepared Site - Procured Hardware & Software	
User Acceptance Testing, Training & Production	- Quality Assurance, Resilience Test Plan, Specification and Results - Trained User - GCN Connection - Handover Document - Application User Manual (*) - Computer Operating Procedures Manual (*) - System Manual (*) - Computer Systems in Production Use (*)	[S8]
Project Evaluation Review	- Project Evaluation Report	[G38]

(*) Final deliverables of the project

FOR GOA PROJECTS, THE PROPOSED TABLE OF CONTENTS FOR SYSTEM MANUAL, APPLICATION USER MANUAL AND COMPUTER OPERATING PROCEDURES MANUAL ARE AS FOLLOWS :

DOCUMENT/SECTION	GOA Deliverables
SYSTEM MANUAL	
1. PURPOSE	
2. SCOPE	
3. REFERENCES	
4. DEFINITIONS AND CONVENTIONS	
5. SYSTEM SUMMARY	
5.1 OBJECTIVES	
5.2 SYSTEM FUNCTIONS	
6. EQUIPMENT CONFIGURATION	
6.1 COMPUTER HARDWARE	
6.2 ANCILLARY MACHINERY	N/A
6.3 CONSUMABLE AND MEDIA	N/A, details are to be included in Annex A - Resilience Design and Recovery Procedures
7. SOFTWARE INVENTORIES	
7.1 INVENTORY OF APPLICATION PROGRAMS	N/A
7.2 INVENTORY OF SYSTEM SOFTWARE	
7.3 INVENTORY OF SOFTWARE PACKAGES	
8. SECURITY AND BACKUP	
9. DATABASE ADMINISTRATION	N/A
10. SYSTEM CONSTRAINTS AND LIMITATIONS	
11. FUNCTION POINT ANALYSIS	N/A
ANNEX A - RESILIENCE DESIGN AND RECOVERY PROCEDURES	

DOCUMENT/SECTION	GOA Deliverables
APPLICATION USER MANUAL	
1. PURPOSE	
2. SCOPE	
3. REFERENCES	
4. DEFINITIONS AND CONVENTIONS	
5. SYSTEM SUMMARY	
5.1 OBJECTIVES	
5.2 SYSTEM FUNCTIONS	
6. EQUIPMENT CONFIGURATION	
6.1 COMPUTER HARDWARE	
6.2 ANCILLARY MACHINERY	N/A
6.3 CONSUMABLE AND MEDIA	N/A
7. SUMMARY OF OPERATION PROCEDURES	
7.1 USER PROCEDURES	
7.2 TERMINAL INPUT PROCEDURES	N/A
8. RUN SCHEDULE	N/A
9. COMPUTER INPUT DOCUMENTS	N/A
10. COMPUTER OUTPUT DOCUMENTS	N/A
11. TERMINAL OPERATING INSTRUCTIONS	N/A
12. SYSTEM MESSAGE BROADCASTING	
13. DOCUMENTATION	
14. SERVICES AND SUPPORT	

DOCUMENT/SECTION	GOA Deliverables
COMPUTER OPERATING PROCEDURES MANUAL	
1. PURPOSE	
2. SCOPE	
3. REFERENCES	
4. DEFINITIONS AND CONVENTIONS	
5. COMPUTER SYSTEM INFORMATION	
5.1 HARDWARE CONFIGURATION	
5.2 HARDWARE COMPONENTS DESCRIPTION	N/A
5.3 SYSTEM SOFTWARE ENVIRONMENT	N/A
5.4 SYSTEM FILES	N/A
6. COMPUTER SYSTEM OPERATING - NORMAL	N/A
7. COMPUTER SYSTEM OPERATING - ABNORMAL	N/A
8. COMPUTER SYSTEM OPERATING - RESTART TAPE	N/A
9. MAGNETIC HANDLING	
9.1 TAPE DECK HANDLING	
9.2 MAGNETIC TAPE FAILURE RECOVER	
9.3 LABELLING OF MAGNETIC TAPES	
10. OPERATION HOUSEKEEPING JOBS	
10.1 SYSTEM FILES BACKUP	
10.2 MAGNETIC MEDIA CLEANING	
11. SYSTEM ADMINISTRATION	
11.1 LAN ADMINISTRATION	
11.2 LAN USER ADMINISTRATION	
11.3 OTHER APPLICATIONS ADMINISTRATION	
ANNEX A - E-MAIL SYSTEM ADMINISTRATOR GUIDE	

APPENDIX C

CROSS REFERENCE BETWEEN OOM DELIVERABLES AND THE CORRESPONDING DOCUMENTS/SECTIONS

Document/Section	OOM Deliverables
SYSTEM MANUAL	
1 Purpose	N/A
2 Scope	N/A
3 References	N/A
4 Definitions and Conventions	N/A
5 System summary	
5.1 Objectives	Objectives of Required System Description
5.2 System functions	Use Case Model
6 Equipment configuration	) Selected Technical System
6.1 Computer hardware	) Option
6.2 Ancillary machine	)
6.3 Consumable and media	)
7 Software Inventories	
7.1 Inventory of application programs	List of Components and Classes
7.2 Inventory of system software	) Selected Technical System Option
7.3 Inventory of software package	)
8 Security and backup	Audit, Control and Security Requirements
9 Database administration	N/A
10 System constraints and limitations	Constraints List
11 Function point analysis	Function Point Analysis

Document/Section		OOM Deliverables
PROGRAM MANUAL		
1	Purpose	N/A
2	Scope	N/A
3	References	N/A
4	Definitions and Conventions	N/A
5	Program List	N/A
6	Program Specifications	(Use Case Model (Business Rules (Class Model (Object Sequence Diagrams (Component Dependency Model
DATA MANUAL		
1	Purpose	N/A
2	Scope	N/A
3	References	N/A
4	Definitions and Conventions	N/A
5	Source document description	N/A
6	Data file description	(Required System LDS (Required System Entity Description
7	Screen/Report description	(Screen Layout (Report Layout

Document/Section		OOM Deliverables
APPLICATION OPERATION MANUAL		
1	Purpose	N/A
2	Scope	N/A
3	References	N/A
4	Definitions and Conventions	N/A
5	System description	
	5.1 System overview	Required System Overview of Required System Description
	5.2 Job identification/description	N/A
	5.3 System flow	N/A
	5.4 Job run flow	N/A
	5.5 Summary of program description	N/A
6	System media input and output	N/A
7	System output reports	N/A
8	Operations description	N/A
9	Run job specification	N/A
10	Error handling	N/A

Document/Section	OOM Deliverables
APPLICATION USER MANUAL	
1 Purpose	N/A
2 Scope	N/A
3 References	N/A
4 Definitions and Conventions	N/A
5 System summary	
5.1 Objectives	Objectives of Required System Description
5.2 System functions	Use Case Model
6 Equipment configuration	) Selected Technical System
6.1 Computer hardware	) Option
6.2 Ancillary machine	)
6.3 Consumable and media	)
7 Summary of operation procedures	
7.1 User procedures	Required System Description
7.2 Terminal input procedures	Screen Layout
8 Run schedule	N/A
9 Computer input documents	N/A
10 Computer output documents	Report Layout
11 Terminal operating instructions	N/A